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University R&D Subcontracts

FY20 Data Analysis

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National Security Education Center



March 5, 2021



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University R&D Subcontracts - SUMMARY

FY20 University R&D Subcontract Summary

- **\$31,451,573** Total University R&D Subcontract Funding in FY20
- **2.3%** total funding decrease over FY19 (-\$743,346)
- **315** subcontracts in FY20, 3.4% decrease
- **Average** per subcontract **\$99,846**; **median \$51,845**
- **86%** of subcontracts **less than \$150K**; one third less than \$32K
- **Regional universities: \$17,644,729**, 1.85% decrease
- **University of California** campuses: **\$2,785,953** in funding (8.91% decrease)
- **New Mexico universities: \$7,177,651** in funding; 19% decrease
- **Texas A&M: \$928,936** FY20 funding, 5.88% increase
- **43** States (13% increase), **116** individual campuses, **8** Foreign Countries
- **\$7,500,940** to **Hispanic-Serving Institutions**

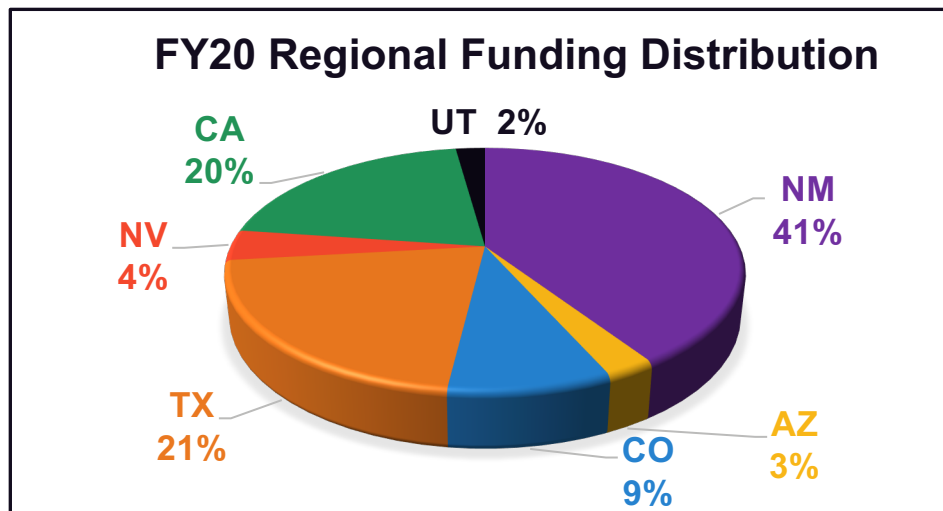
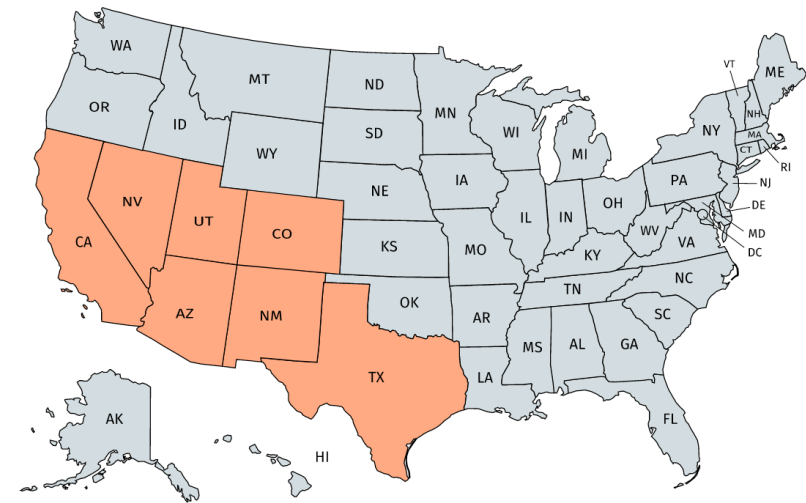
Methodology: FY20 University R&D Subcontracts: Expenditure Code 621UC000 Total Cost Data

University R&D Subcontracts – Regional Distribution

FY20 funding distribution – Regional

Total University R&D Subcontract Funding: \$31,451K

- FY20 Total regional funding **\$17,644,729**
- **56%** of total subcontract funding; slight (1.85%) decrease from FY19
- **158** regional subcontracts
- **50%** of total subcontracts; 8.67% decrease from FY19



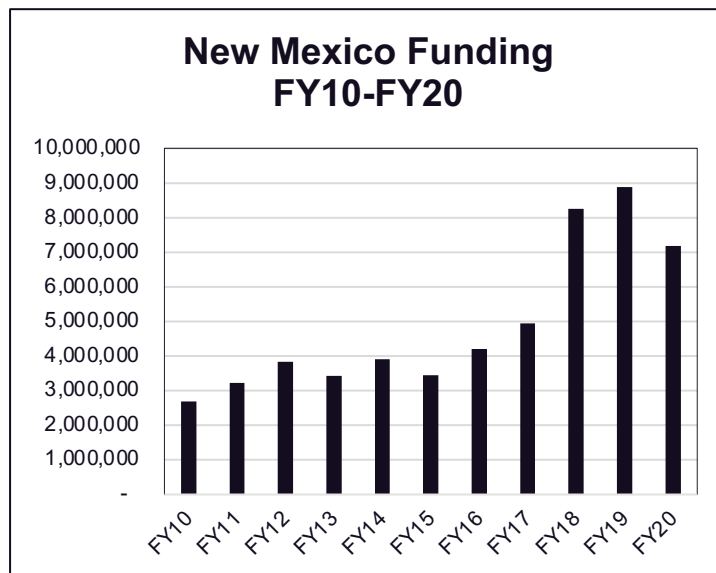
- *Loss of New Mexico Consortium Entrada Biolab Facility subcontract of \$1,232K from FY19 had significant impact on NM, regional and overall statistics*

University R&D Subcontracts – New Mexico

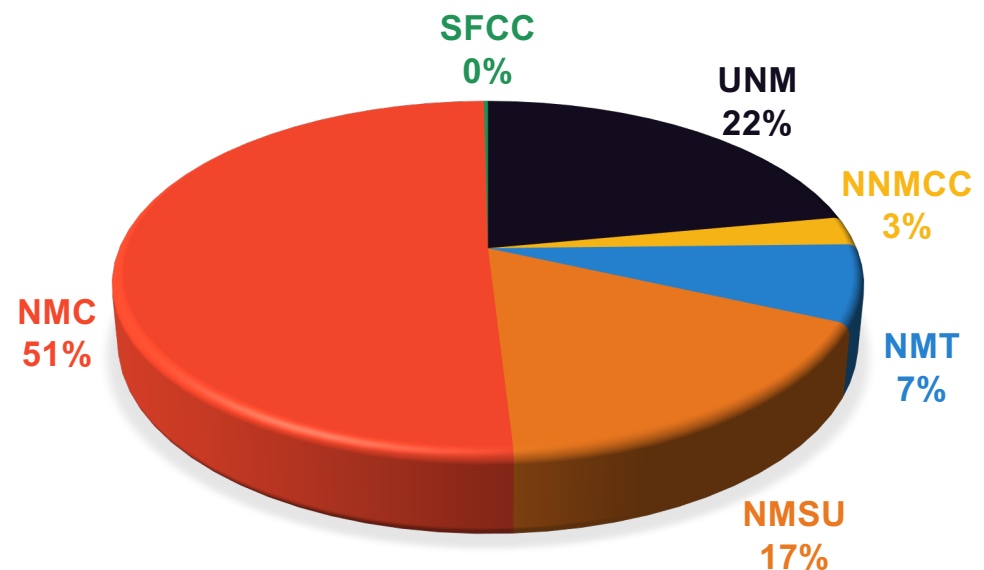
FY20 funding distribution for New Mexico

Total University R&D Subcontract Funding : \$31,451K

- **\$7,177,651** total FY20 funding
- **58** total subcontracts
- **19% decrease** from FY19; primarily due to loss of NMC Entrada Biolab subcontract of \$1,232K.



FY20 New Mexico funding distribution



NMT: New Mexico Institute of Mining & Technology
NMSU: New Mexico State University
NNMCC: Northern New Mexico Community College
SFCC: Santa Fe Community College
UNM: University of New Mexico

University R&D Subcontracts – New Mexico Consortium

New Mexico Consortium FY20 funding

Total University R&D Subcontract Funding: \$31,451K

FY20 total NMC funding \$4,186K (36% decrease)

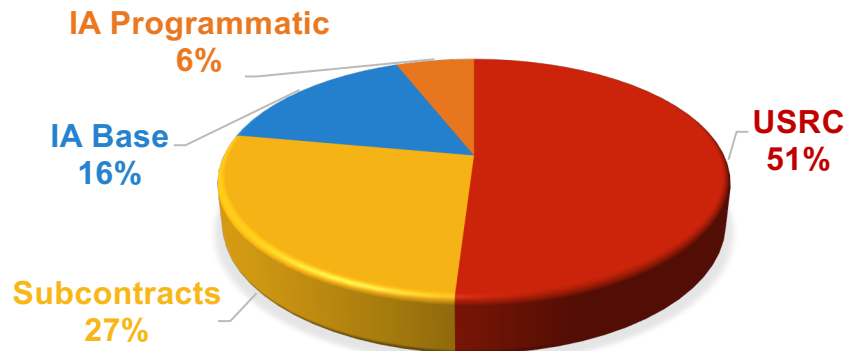
- \$2,135K Ultrascale Systems Research Center (USRC: 4 subcontracts)
- \$1,126K: Six other subcontracts (32.9% decrease in dollars *)
- \$675K: Institutional Agreement (IA: non-subcontract)
- \$250K: IA Programmatic Funding (non-subcontract)

(Note loss of \$1,232K Entrada Biolab Access Subcontract from FY19)*



New Mexico Consortium is a non-profit formed by the three New Mexico universities in order to facilitate research in the state of New Mexico, specifically to increase research collaborations between universities, industry, and Los Alamos National Laboratory.

NMC FY20 funding



University Subcontracts - HSI

FY20 Distribution for Hispanic-Serving Institutions (HSI)

Total University R&D Subcontract Funding: \$31,451K

- **\$7,500,940** to Hispanic-Serving Institutions (24% of total funding)
- **\$7,006,027** to Regional Partners (66% of regional funding)

~413 colleges in the US identified as Hispanic-Serving Institutions (HSI)

Hispanic-Serving Institutions include:

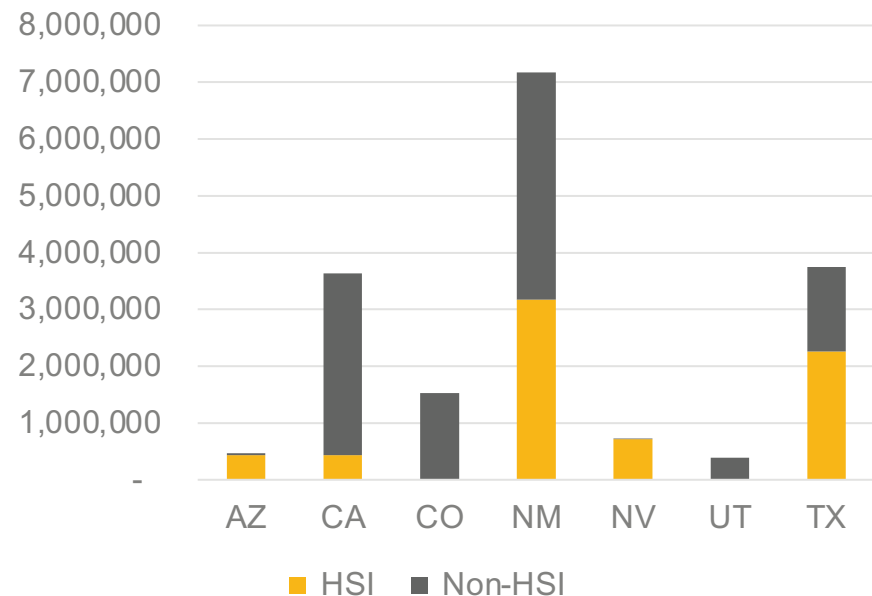
- Most Texas A&M campuses
- UT Houston
- All New Mexico schools (except NMC)
- University of California Irvine, UCR, UCSB, UCSC

NMC's \$3,260,647 FY20 funding not included

A Hispanic-Serving Institution (HSI) is defined as an institution of higher education that –

- is an eligible institution; and
- has an enrollment of undergraduate full-time equivalent students that is at least 25 percent Hispanic students at the end of the award year immediately preceding the date of application.

**FY20 Funding for Hispanic-Serving Institution (HSI)
Regional Partners (\$7,006K)**



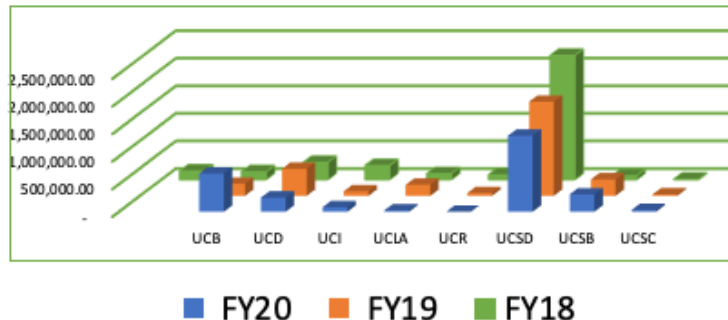
University R&D Subcontracts – University of California

FY20 funding distribution by UC Campus

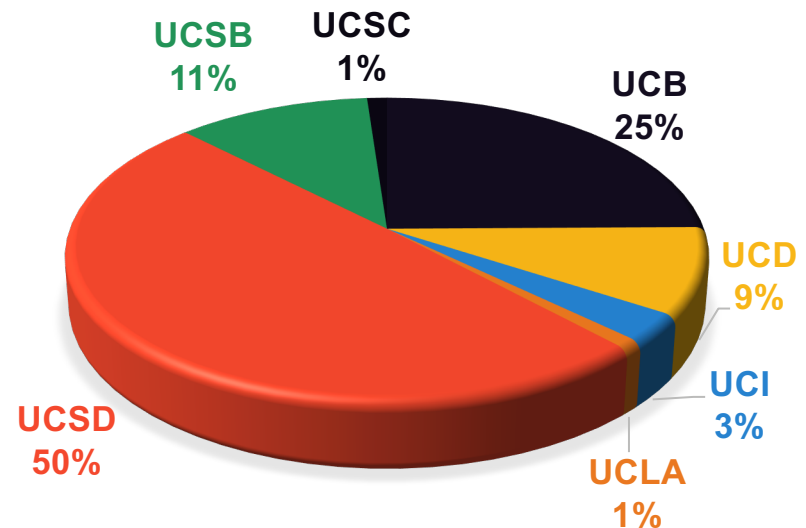
Total University R&D Subcontract Funding: \$31,451K

- **Total FY20 UC funding: \$2,785,953**
(8.91% decrease from FY19)
- **21 subs** (27% decrease from FY19)
- **\$132K** average/subcontract
(25.79% increase over FY19)
- UC = **8.85%** of total sub funding
- UC = **6.67%** of total subcontracts

FY18-FY20 UC Funding Trend and Distribution



FY20 funding by UC Campus



University R&D Subcontracts – Texas A&M

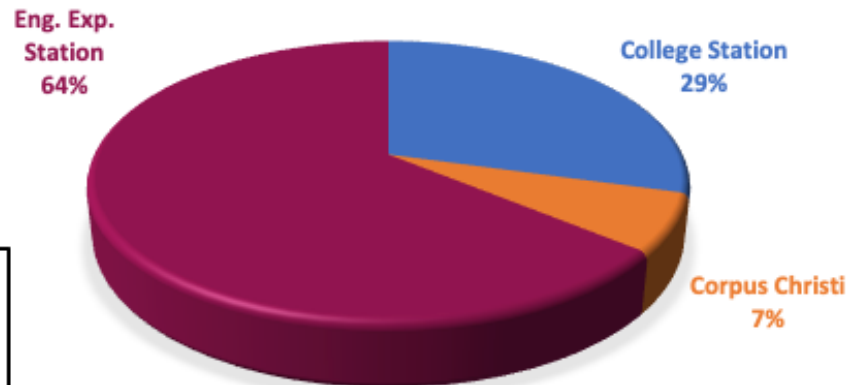
FY20 funding distribution for Texas A&M

Total University R&D Subcontract Funding : \$31,451K

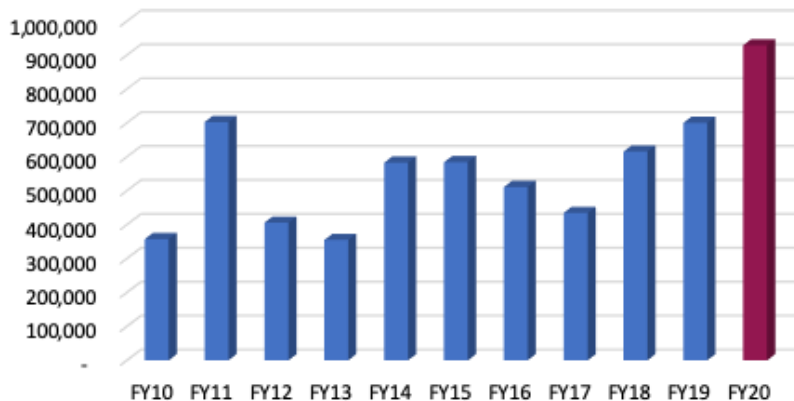
- Total FY20 Texas A&M funding: **\$928,936**
- **18** subcontracts (5.88% increase over FY19)
- Average per sub: **\$51,607***

*smaller average per subcontract possibly due to more frequent releases against MTOA vs. BA

FY20 Texas A&M Funding Distribution



FY10-FY20 Texas A&M Funding Trend



32.63% funding increase over FY19; continued growth over a decade

University R&D Subcontracts – by LANL ALD

FY20 funding distribution by LANL ALD

Total University R&D Subcontract Funding: \$31,451K

ALDSC
32%

DDWP 0%

ALDCP 0%

ALDBUS 1%

ALDESHQSS 2%

ALDWP 4%

ALDX 5%

DDSTE 5%

ALDFO 6%

ALDGS
7%

ALDW
9%

ALDCELS
12%

ALDPS - 17%

Simulation & Computation

Physical Sciences

Chemistry, Earth & Life Sciences

Weapons

Global Security

Facilities & Operations

Science, Tech & Eng.

Weapons Physics

Weapons Programs

University collaborations have lab-wide impact

ALD... - Associate Laboratory Directorate

DD... - Deputy Laboratory Director

ALDSC-Simulation & Computation \$10,113K

ALDPS-Physical Sciences \$5,436K

ALDCELS-Chemistry, Earth & Life Sciences \$3,722K

ALDW-Weapons \$2,683K

ALDGS-Global Security \$2,287K

ALDFO-Facilities & Operations \$1,844K

DDSTE: Science, Technology & Engineering \$1,567K

ALDX-Weapons Physics \$1,418K

ALDWP-Weapons Production \$1,283K

ALDESHQSS-Environment, Safety, Health, Quality, Safeguards & Security \$557K

ALDBS-Business Management \$307K

DDWP-Weapons Programs \$157K

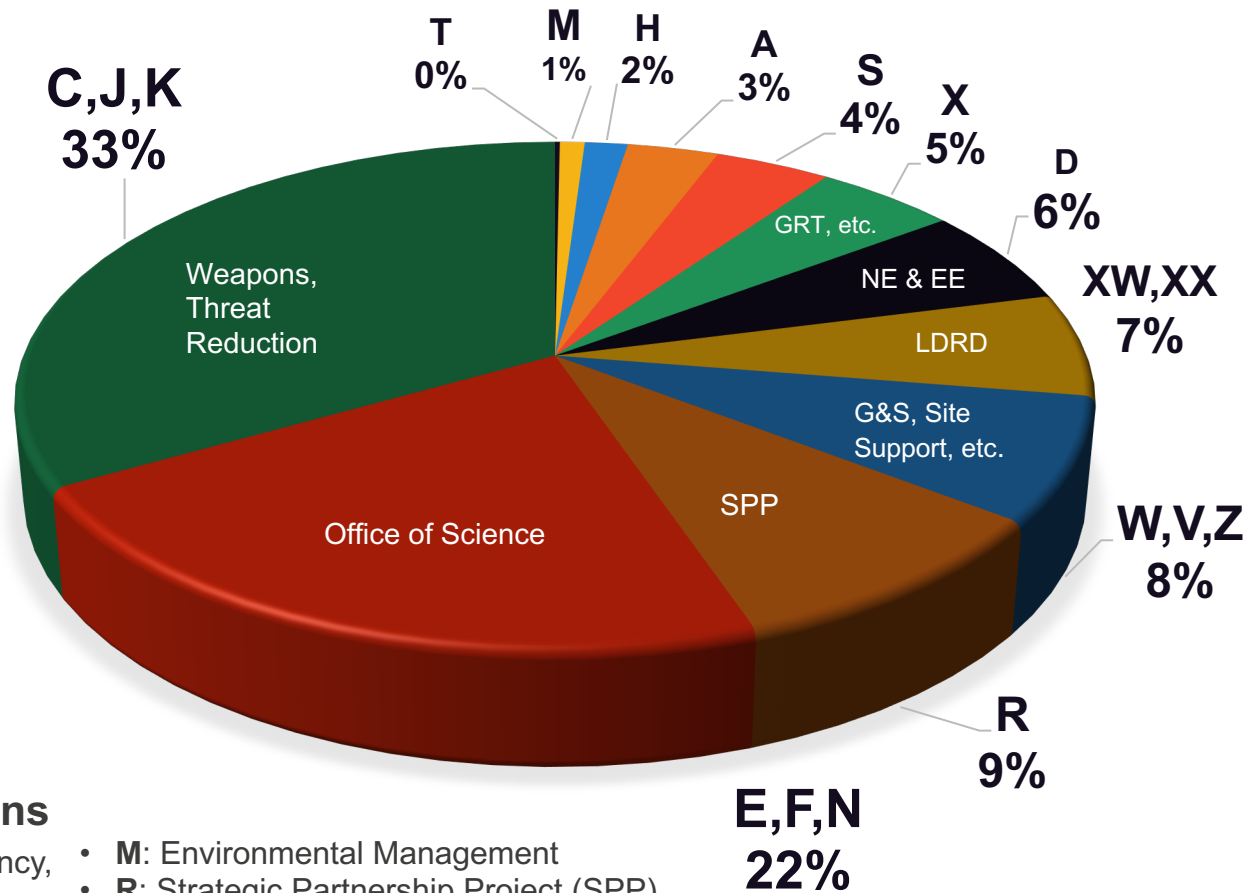
ALDCP-Capital Projects \$80K

University R&D Subcontracts – by Fund Type

FY20 distribution by funding type

Total Funding: \$31,451K

University collaborations fueled by a wide variety of funding sources



Funding Code Descriptions

- **A:** AARA, Fossil Energy, Energy Efficiency, ES&H, Non-Prolif., & Counter Intelligence
- **D:** Nuclear Energy & Energy Efficiency
- **E,F,N:** Office of Science
- **H:** Non-proliferation & Intelligence
- **C,J,K:** Weapons, Threat Reduction
- **M:** Environmental Management
- **R:** Strategic Partnership Project (SPP)
- **S:** Integrated Contractors
- **T:** Tec Transfer-Funds in Agreements
- **W,V,Z:** G&A, Site Support, Misc.:
- **X:** GRT, Program Office, Site-Support
- **XW, XX:** LDRD

University Subcontracts – Across the US

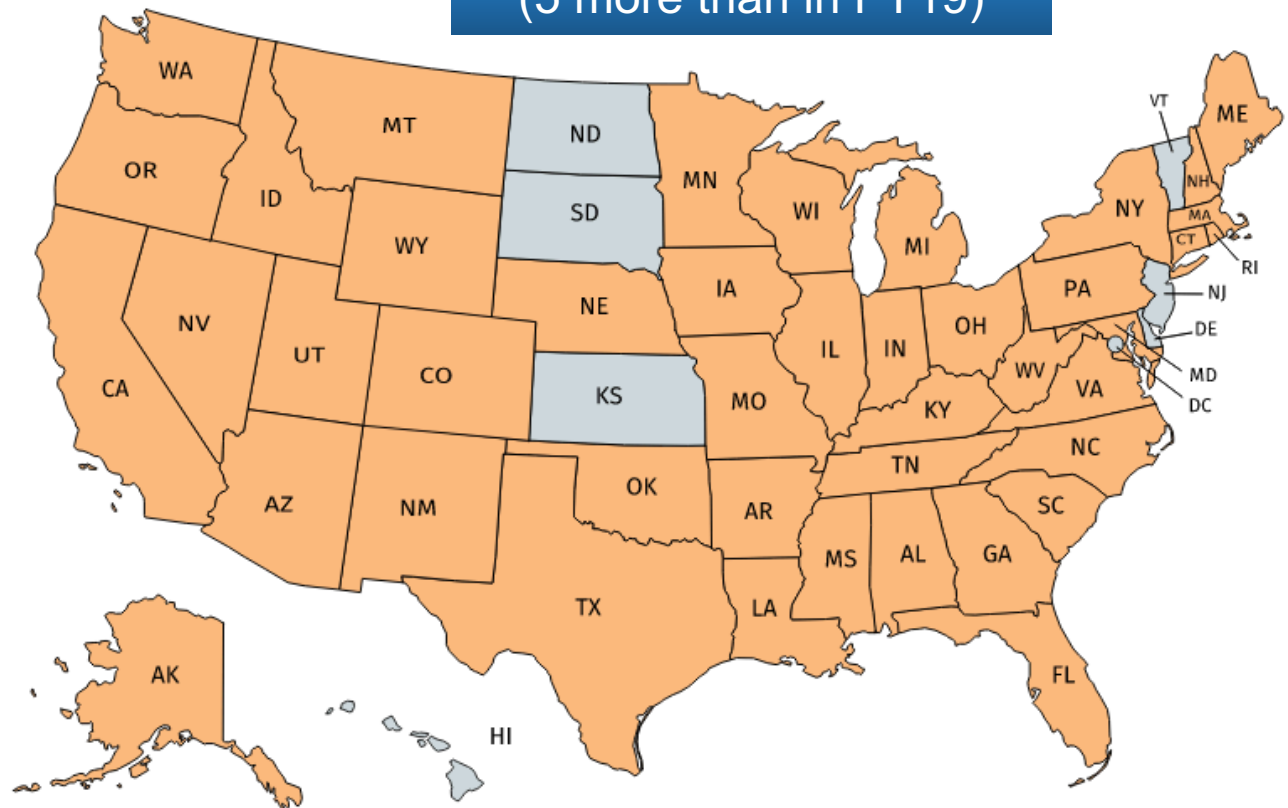
LANL university collaborations reach across the United States

Top 10 FY20 Funded States

- New Mexico
- California
- Texas
- Georgia
- Michigan
- Colorado
- New York
- Pennsylvania
- *(Portugal)*
- Ohio

4 of the top 6 funded states are regional partners

LANL had university subcontracts in **43 states** (5 more than in FY19)



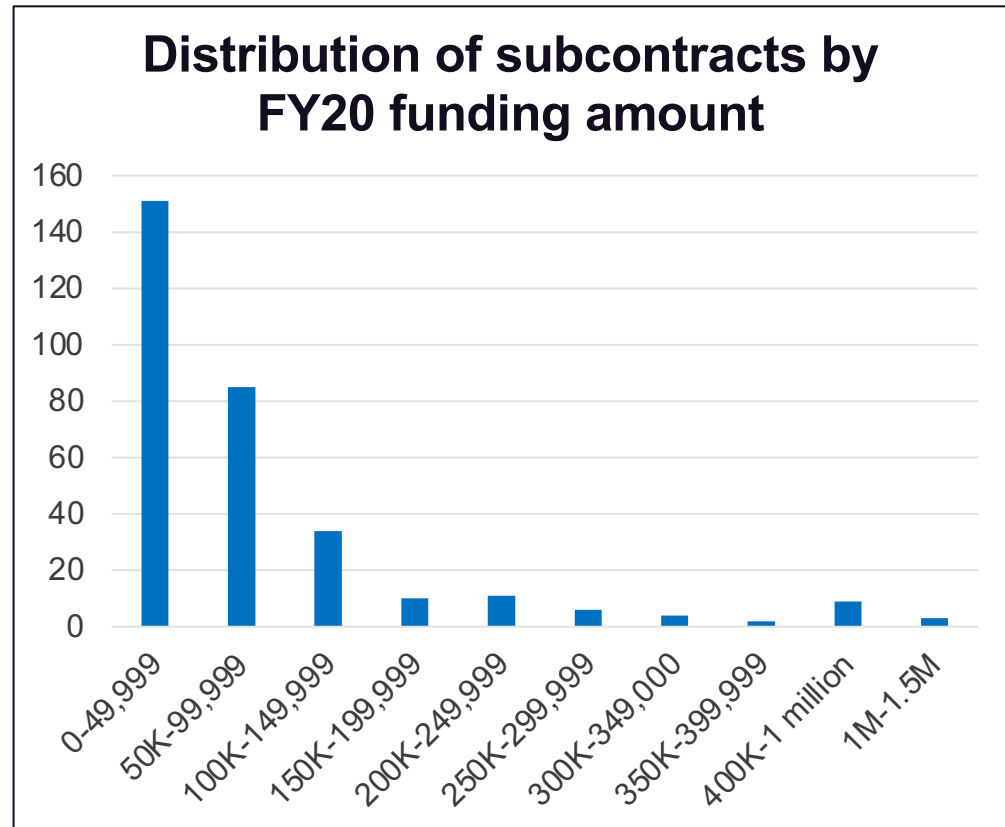
University R&D Subcontracts – Distribution by POs

Distribution of university subcontracts

Total University R&D Subcontract Funding: \$31,451K

- Median subcontract amount is **\$51,845/year** (average **\$99,846**)
- **86%** of subcontracts are under **\$150K/year**
- **96%** are under **\$400K/year**
- Only **three** subcontracts were over \$1M/year

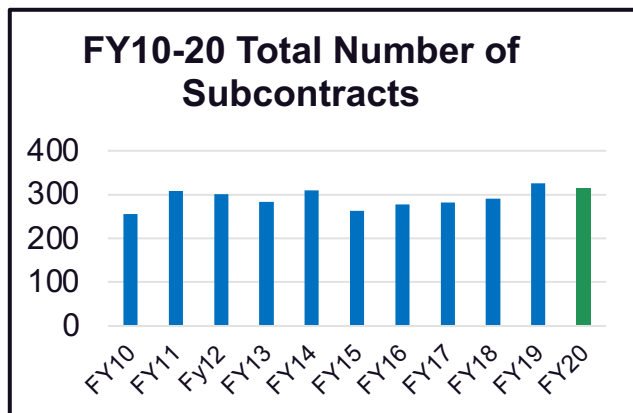
One third of all university R&D subcontracts are for \$32,000 or less per year



NOTE: Based on funding spent in FY20, not on value of PRs submitted

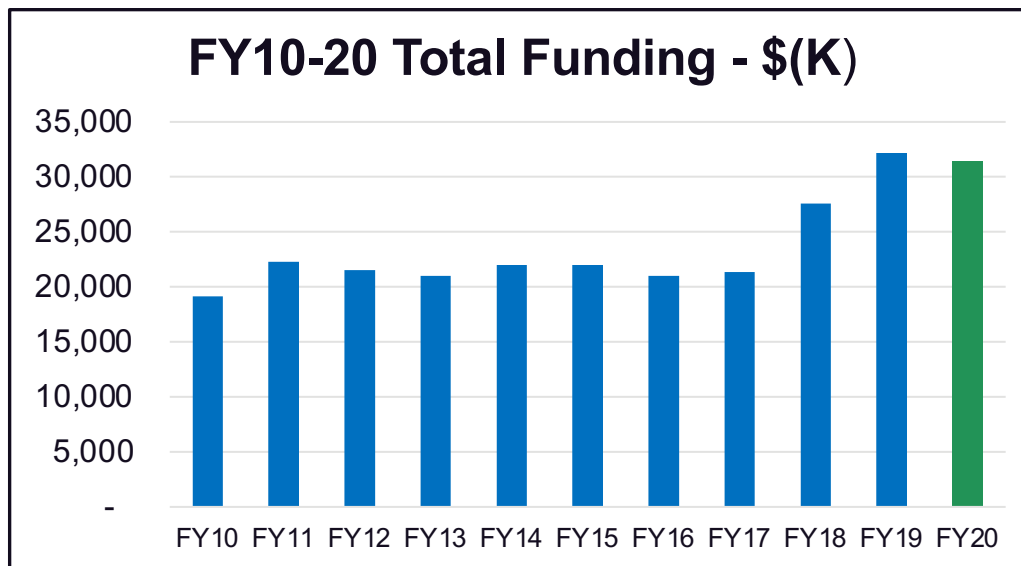
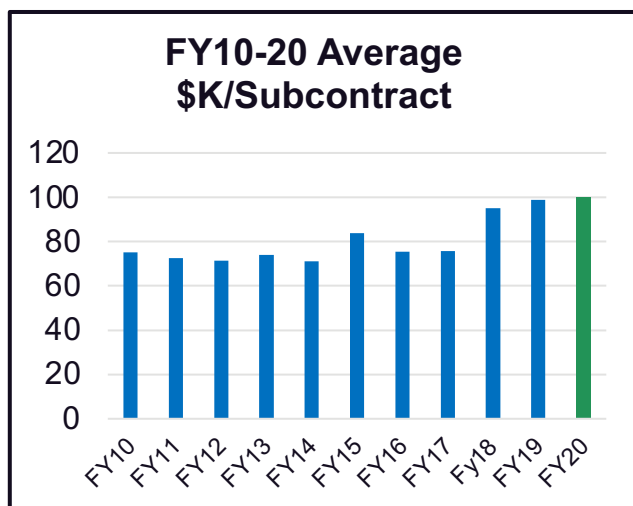
University R&D Subcontracts – 10 Years of Data

Total university R&D subcontract funding FY10 – FY20



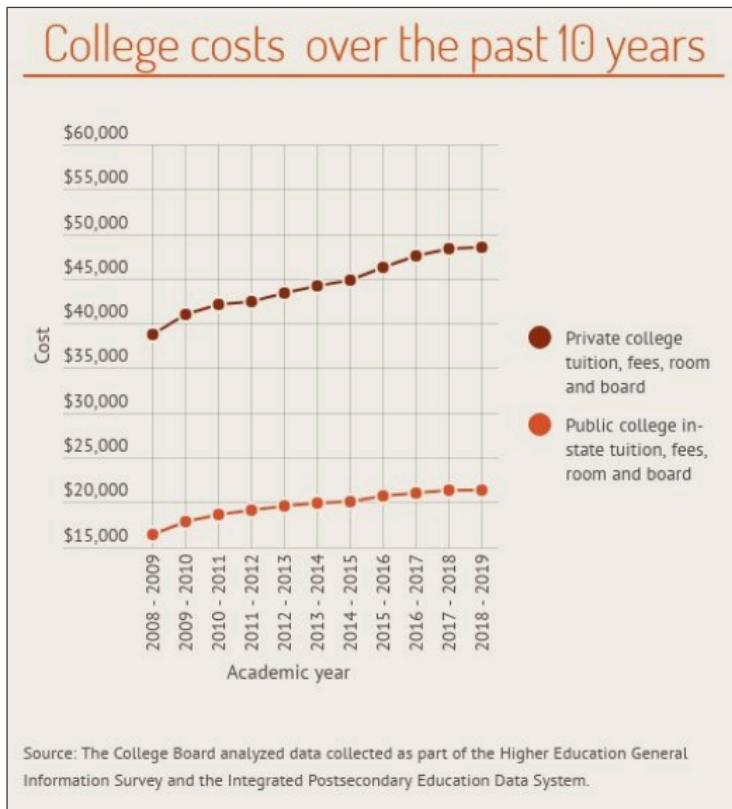
- **Total subcontracts:** FY20=315, little change
- **Average per sub:** FY20= \$99,846/sub, fairly stable
- **Total funding:** FY20=\$31,451K, slight decrease

Increase in costs of subcontracts over last three years reflective of increased costs at universities, as total number of subcontracts remains fairly stable



University R&D Subcontracts – Cost of a Subcontract

Why has the cost of a subcontract increased?



- Average annual cost of a subcontract was \$99,846 in FY20 (median \$51,846)
- On average, tuition at four-year public colleges increased by **37%** from **2008-2018** ⁽¹⁾
- During the same period, **41** states spent less per student, an average of **13%** less ⁽²⁾
- All of our regional partners, except Texas, saw larger than average increases in tuition from 2008-2018: Arizona **92.4%**; Colorado **69.3%**; California **68.5%**; Nevada **58.0%**; Utah **42.2%**; New Mexico **38.7%**; Texas **30.4%** *(these schools represent 56% of our total subcontracts, so heavily impact our averages)*

Tuition isn't the only factor, but it is indicative of the increased expenses that universities face, that they are then passing on to LANL as a cost of doing business.

For More Information



Website TBD March 2021



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University R&D Subcontracts - Footnotes

University R&D Subcontract Data and Analysis

Oracle Expenditure Code 621UC000 Total Cost Data run after end of fiscal year.

Assumptions:

- Data includes full FY20 cost data on Expenditure Code 621**UC**000
- Data manually reviewed and cleaned consistently from year to year
- Service POs coded to 621**00**000 or elsewhere not included
- Non-university vendors and consultants coded in error manually removed
- Subcontracts with zero or negative balances (credits) manually removed

Footnotes

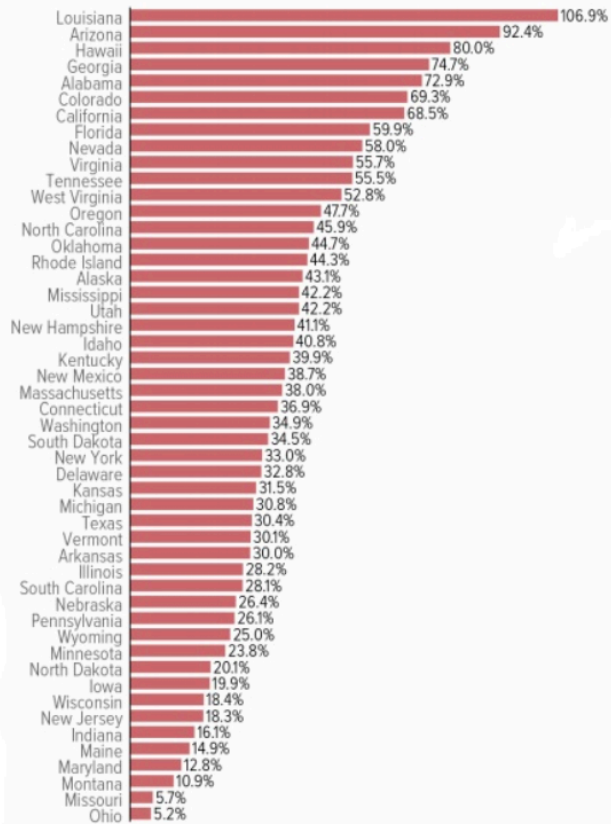
(1) The College Board analyzed data collected as part of the Higher Education General Information Survey and the Integrated Postsecondary Education Data System (<https://www.cnbc.com/2019/12/13/cost-of-college-increased-by-more-than-25percent-in-the-last-10-years.html>)

(2) Center on Budget and Policy Priorities: CBPP analysis using College Board Trends in College Pricing Report and BLS CPI-U-RS , CPPP.org (<https://www.cnbc.com/2019/12/13/cost-of-college-increased-by-more-than-25percent-in-the-last-10-years.html>)

University R&D Subcontracts – Additional Information

Tuition Has Increased Sharply at Public Colleges and Universities

Percent change in average tuition at public, four-year colleges, inflation adjusted, 2008-2018

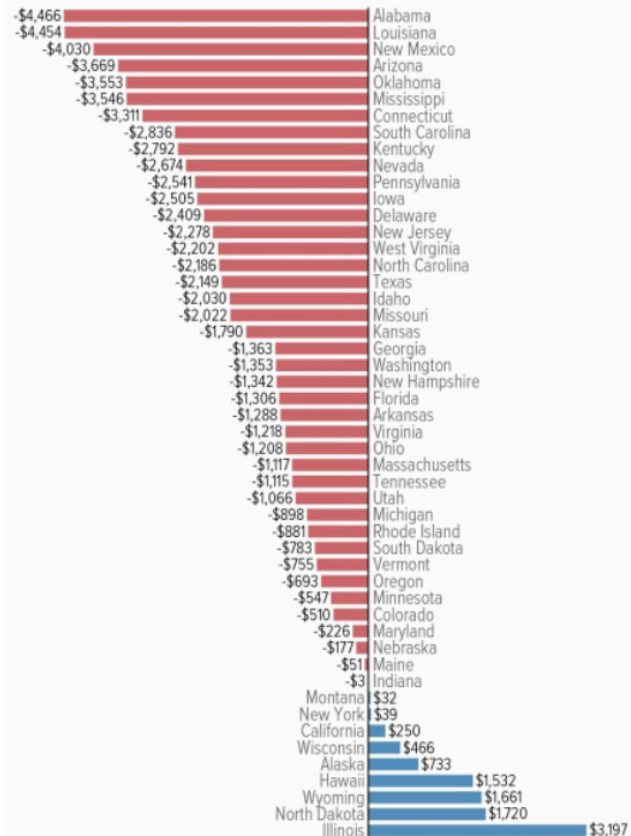


Source: CBPP analysis using College Board Trends in College Pricing Report and BLS CPI-U-RS

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

State Funding for Higher Education Remains Far Below Pre-Recession Levels in Most States

Change in state spending per student, inflation adjusted, 2008-2018



Source: CBPP analysis using SHEEO State Higher Education Finance Report and BLS CPI-U-RS

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

<https://www.cnbc.com/2019/12/13/cost-of-college-increased-by-more-than-25percent-in-the-last-10-years.html>

University R&D Subcontracts – Additional Information

Average Tuition Growth Among National Universities, 2001-2021

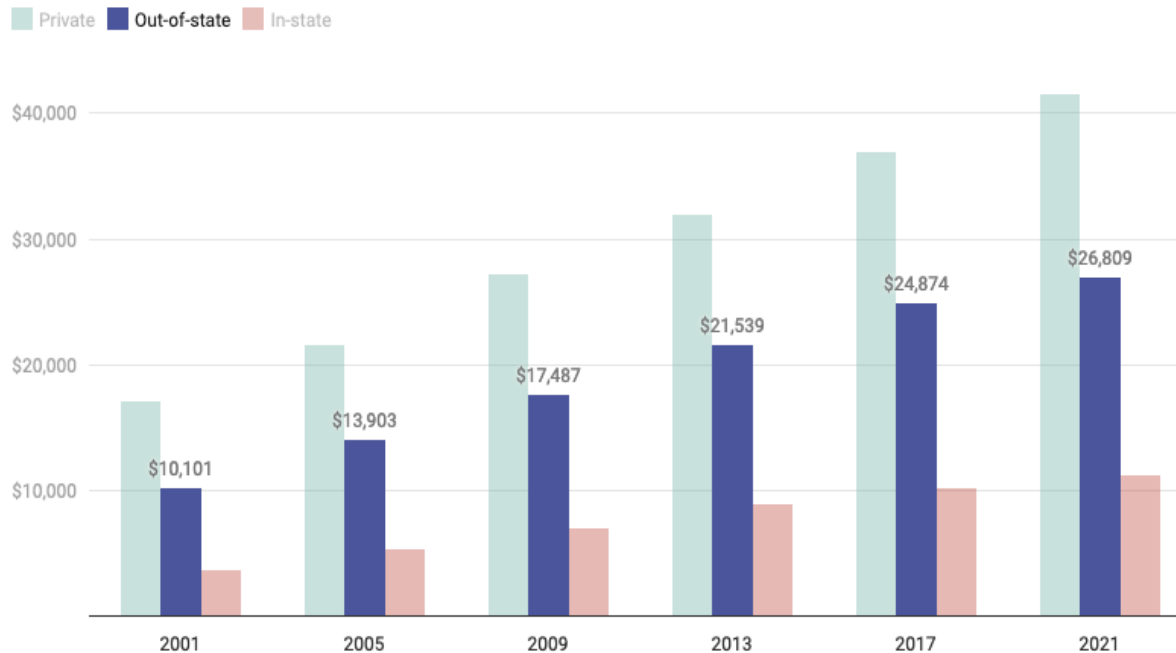


Chart: Ally Sorrells for U.S. News & World Report • [Getthedata](#) • Created with [Datawrapper](#)

<https://www.usnews.com/education/best-colleges/paying-for-college/articles/2017-09-20/see-20-years-of-tuition-growth-at-national-universities>

“The chart... show(s) 20 years of tuition changes, as reported to U.S. News by the 389 ranked National Universities included in the recently released 2021 [Best Colleges](#) rankings. Tuition and fees are displayed by the rankings edition year; for example, the data for the 2021 edition was gathered by U.S. News in 2020. Here's a quick breakdown:

The average tuition and fees at private National Universities have jumped 144%.

Out-of-state tuition and fees at public National Universities have risen 165%.

In-state tuition and fees at public National Universities have grown the most, increasing 212%.”

University Subcontracts - HBCU

FY20 Distribution for Historical Black Colleges and Universities (HBCU)

107 colleges in the US identified by US Department of Education as HBCU (3 currently closed)

No Subcontracts with HBCUs in FY20

Section 322(a) of the Higher Education Act of 1965, as amended (HEA), defines an HBCU as "... *any historically black college or university that was established prior to 1964, whose principal mission was, and is, the education of Black Americans, and that is accredited by a nationally recognized accrediting agency or association determined by the Secretary to be a reliable authority as to the quality of training offered or is, according to such an agency or association, making reasonable progress toward accreditation....*"

